

**UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RENTON, WASHINGTON 98055-4056**

In the matter of the petition of

EADS Airbus GmbH

for an exemption from §§ 25.785(d),
25.813(b), 25.857(e), 25.1447(c)(1) and
25.1447(c)(3)(ii) of Title 14, Code of
Federal Regulations

Regulatory Docket No. FAA-2001-10136

GRANT OF EXEMPTION

By letter EAA 2-323/06/01 dated June 26, 2001, Mr. A. Westenberger, EAA, Head of Office of Airworthiness, EADS Airbus GmbH, Kreetzlag 10, P.O. Box 950109, D-2111 Hamburg, Germany, petitioned for an exemption from the cargo-only provisions of § 25.857(e), and the passenger requirements of §§ 25.785(d), 25.813(b), 25.1447(c)(1) and 25.1447(c)(3)(ii) for the Model A300B4-600/-600R airplane, to allow carriage of 6 non-crewmembers (commonly referred to as supernumeraries).

Sections of the FAR affected:

Section 25.785(d), at Amendment 25-32, requires, in pertinent part, that there be a firm handhold to enable occupants to steady themselves when moving through the aisles in moderately rough air.

Section 25.813(b), at Amendment 25-32, requires, in pertinent part, that each passenger emergency floor level exit equipped with an assist means have an assist space next to it.

ANM-01-512-E

Section 25.857(e), at Amendment 25-93 requires, in pertinent part, that when a Class E cargo compartment is installed on the airplane, the airplane is used for carriage of cargo only.

Section 25.1447(c), at Amendment 25-41, requires, in pertinent part, that oxygen dispensing units must be automatically presented to the occupants before the cabin altitude exceeds 15000 feet. The total number of dispensing units and outlets must exceed the number of seats by at least 10 percent. The extra units must be uniformly distributed throughout the cabin as practicable, and there must be two oxygen masks in each lavatory.

Related Sections of the FAR:

Section 121.583(a) contains, in pertinent part, a listing of categories of the people who may be carried aboard an airplane in part 121 service without complying with all the passenger-carrying airplane requirements of part 121.

The petitioner's supportive information is as follows:

“EADS Airbus GmbH, D-21111 Hamburg-Germany, hereafter designated as ‘EADS’ hereby petitions the Federal Aviation Administration (FAA) for an exemption from parts of the requirements of Sections 25.785 (d), 25.813(b), 25.857(e), 25.1447(c)(1) and 25.1447(c)(3)(ii) of the Federal Aviation Regulations (FAR) to get a Supplemental Type Certificate (PAX to Freighter) of an Airbus model A300B4-600/-600R with the possibility of carrying on the main deck up to six (6) non-crewmembers (persons not necessarily assigned some duty associated with the operation of the airplane) in addition to the maximum four (4) flight deck occupants, with a limit on the total occupancy of 10.

“SECTIONS OF THE FAR AFFECTED

“Section 25.785(d) Amendment 25-32 effective February 24, 1972 specifies that a firm handhold or rail along each aisle must be provided if the seatbacks do not allow a firm handhold. This Section contains requirements identical to those of Section 25.785(j) Amendment 25.72, effective July 20, 1990.

“Section 25.813(b) Amendment 25-32 effective February 24, 1972 requires that an adequate space is provided next to each exit equipped with slides to allow crewmember(s) in assisting the passengers during an evacuation, without reducing the unobstructed width of the passageway below that required for such exit.

“Section 25.857(e) Amendment 25-93 effective February 24, 1972 specifies in part that a cargo compartment may be designed according to the criteria further defined in Sections 25.857(e)(2) to (5) as a class E cargo compartment on airplanes used only for the carriage of cargo.

“Section 25.1447(c)(1) Amendment 25-41 effective July 18, 1977 requires in the parts pertinent to the present exemption that, for operation above 30,000ft

oxygen dispensing units must be automatically presented to the occupants, before the cabin pressure altitude exceeds 15,000ft. Section 25.1447(c)(1) further requires the total number of dispensing units and outlets exceed the number of seats by at least 10 percent.

“Section 25.1447(c)(3)(ii) Amendment 25-41 effective July 18, 1977 requires that at least two outlets and units of dispensing equipment of a type similar to that required by section 25.1447(c)(1) are installed in each lavatory.

“DESCRIPTION OF THE AIRPLANE TO BE CONVERTED AND COVERED BY THE EXEMPTION

“The Airbus A300B4-600/-600R model is a pressurized transport category airplane powered by two turbofan engines. It is included in the United States (U.S.) Type Certificate n° A35EU, first issued on March 28, 1988. The converted A300B4-600/-600R PAX to Freighter airplane, will have an all-cargo main deck configuration. Application for certification has been asked by STC procedure.

“In order to optimize the cargo missions, accommodation for 6 persons is provided between the flight deck and the main deck class E compartment, in the direct vicinity of the exits. Except for the sections from which exemption is requested, all design criteria applicable to the carriage of passengers have been taken into account for the design of this seating arrangement. In particular, protection [from] injury crash and penetration of smoke and noxious gases is provided in the form of a 9g crash net and of a smoke-tight curtain, which isolate the main deck cargo compartment from the zone where the supernumerary persons are seated. Two emergency exits remain operable located one on each side of the fuselage; both equipped with escape slides. Oxygen supply in case of depressurization (as required in case of smoke warning in the main deck cargo compartment) is ensured by fixed oxygen bottles, which can supply oxygen for all occupants for the maximum possible duration. The occupants are instructed that oxygen masks need to be used by a chime and lighted signs located in their direct eyescan. These information signs can be either manually activated by the flight crewmembers or are automatically turned on by on altitude pressure switch. The front of the mask box is fitted with two half-doors; one of which [is] actuated by the removal of the mask from its housing and initiates the automatic opening of a miniature oxygen valve. Two-way communication with the cockpit is possible through dedicated communication panels and other emergency equipment as required by the applicable Airworthiness Standards are also provided. EADS believes that an equivalent level of safety with the parts of the requirements from which relief is sought will be achieved by design precautions and by introduction of instructions in the A300B4-600/-600R P/F Airplane Flight Manual Supplement defining the condition under which supernumerary persons supplement may be carried.

“EXTENT OF THE REQUIRED REGULATORY RELIEF

“The main purpose of this request for exemption is to permit carriage of non-crewmembers on an all-freighter airplane, which is the direct reason for requesting exemption from Section 25.857(e). Other Sections from which exemption is sought are subordinated to this first one. Exemption from the aforesaid Sections is sought to the following extent:

“Section 25.785(d): no handgrip is installed.

“Section 25.813(b): assist space is not provided next to the emergency exits. The assist space is adequately respected on one side in the cases when the cargo load has not shifted forward, further to crash landing conditions.

“Section 25.857(e): relief is sought to permit carriage of 6 persons on an all-freighter airplane, which has a class E cargo compartment.

“Section 25.147(c)(1): one oxygen dispensing unit is supplied and readily available for every seated occupant. The occupants will take hold of the mask upon instruction via lighted signs and chime controlled by the flight crew.

“Section 25.1447(c)(3)(ii): one oxygen mask is stored in the lavatory. It can be connected to the fixed oxygen distribution system.

“SUPPORTING ARGUMENTS

- “1. The cargo operators need for their missions a number of support personnel, necessary for the safe handling of the cargo in the process of loading/offloading. Such personnel are obviously needed both at departure and destination of a cargo flight. It is perishable important that the cargo handlers are present upon airplane arrival if perishable goods or live animals are carried. The most efficient, surest and cheapest way to assure their attendance at destination airport is to transport them aboard the cargo flight.
- “2. Among their various missions, the cargo operator may have to carry particular kinds of goods, such as live animals, hazardous materials, valuable or perishable cargo. Such types of cargo cannot be left unattended, even for the duration of a flight, and the presence of personnel qualified in their handling is necessary on the airplane on which they are carried. Safety and efficiency of the operation will therefore be enhanced.
- “3. Cargo operators also need to have qualified personnel necessary for operation and maintenance purposes at various location. They will optimize their missions if they are permitted to carry their personnel aboard their cargo flights, thus saving travel by regular passenger flights.

“4. The Airworthiness Standards applicable to the Supplemental Type Certificate of the Airbus A300B4-600/-600R, as well as the current Airworthiness Standards, actually consider carriage aboard commercial flights of:

- crewmembers, including flight crewmembers and cabin attendants, who are each assigned duties with the operation of the airplane.
- passengers, who have no expected ability in the use of emergency provisions and therefore need to be attended.

“The categories of occupants for which this exemption is sought are qualified aeronautical personnel. Furthermore, they are trained as to the autonomous use of emergency equipment and emergency exit operation. It will also be required that the operator only allows access to these seats to persons found able to perform these tasks on their own.

“5. Therefore the assist space adjacent to the emergency exits required by Section 25.813(b) for assisting the passengers in evacuating is not necessary as the considered categories of personnel will be trained for door operation an autonomous evacuation. Both doors are equipped with a power assist opening system and self-deploying slides.

“Likewise, the requirements of Section 25.1447(c)(1) and (c)(3)(ii) to have automatic presentation of oxygen dispensing units before the cabin pressure altitude exceeds 15,000ft are compensated by the fact that the users will have knowledge of equipment location and use. The masks provided are quick-donning masks with regulator and are immediately available to seated occupants. A similar procedure for reach and use of dispensing units applies to flight crewmembers. As far as the excess 10 percent dispensing units also required for two purposes: use by cabin attendants moving along the aisles, passenger's awkwardness to reach one mask. None of these factors applies to the considered configuration.

“Requirements of Section 25.785(d) to have handgrips installed when seatbacks do not allow a firm handhold could not be met due to the three (3) rearward facing seats. For the considered categories of occupants, the recommendation to remain seated with seat belt fastened, as far as practicable, will be made in order to limit moving around to the necessary minimum. Nevertheless due to reduced area compared to the given configuration, and a normal pax-compartment, several holding devices are available.

“PUBLIC INTEREST

“The granting of this exemption will be in the public interest, as by having the possibility of carrying supernumerary persons aboard their cargo flights, the US

operators of the A300B4-600/-600R P/F Airbus airplanes will be able to operate under optimal safety conditions, to render their operation more efficient and to make substantial savings in carrying their personnel from one place to another. The reasons for these benefits are developed in arguments 1, 2 and 3 above. This will also improve the utility of cargo airplanes.”

A summary of the petition was published in the Federal Register on July 27, 2001 (66 FR 39221). No comments were received.

The FAA's analysis/summary is as follows:

The petitioner has requested relief primarily from the requirements of § 25.857(e), which permit carriage of cargo only when a Class E cargo compartment is installed on the airplane. Class E cargo compartments are usually remote from the flight deck and encompass the entire interior of the airplane. The means of controlling fires that might occur in the cargo compartment is to starve the fire of oxygen. This is accomplished by depressurizing the airplane and maintaining an altitude that will not support combustion. For this reason, only crewmembers are permitted on board such airplanes.

The FAA has previously granted exemptions for carriage of persons in addition to crew on similar aircraft provided certain conditions are met (reference Exemption Nos. 5938 and 7448). The conditions established for the previous exemptions also apply here.

In all cases, there must be suitable means of preventing smoke penetration into areas that are occupied. In addition, due to the nature with which the fire is controlled, it is necessary to limit persons on board the airplane to those that have been found physically fit by the operator and have been briefed on the use of emergency equipment. The Airbus design accounts for these considerations by providing a solid barrier, and proposing limitations on the occupants. These are consistent with previous approvals.

For the A300B4-600/-600R, a positive feature of the design is the retention of the passenger emergency exits with escape slides. These exits have the dimensions (42" X 72") of Type A exits and incorporate automatic, inflatable escape slides to facilitate egress. A passenger airplane with the same number of occupants would be required to have only a pair of much smaller 20" X 36" Type III exits. Even though the interior arrangement of this airplane does not provide all of the required access provisions to fully classify the exits as Type A, they are far superior to the minimum Type III exits required. The FAA considers that an assist space is not necessary in this case due to the higher level of training and awareness of the occupants.

The requirement for a handhold to enable passengers or flight attendants to steady themselves while using aisles in moderately rough air is geared toward airplanes

that may have fairly long distances between seats and areas of the cabin where persons may be found during flight. On the A300B4-600/600R, the occupied area is very small, and it is possible to return to each seat very quickly. In addition, the occupants would be seated for the majority of the flight, as noted by the petitioner. Therefore the FAA concurs that a handhold is not necessary.

The FAA considers that the supernumeraries should have an oxygen system that is comparable to that of passengers. However, taking into account the extra knowledge and training that these people will have, it is not necessary that an equivalent system be installed. In this case, the masks are installed in a readily accessible location that is visible to the occupants, and are of the quick-donning variety. A single motion removes the mask from its stowage, which is directly comparable to passenger oxygen. Notification that oxygen is necessary is by visual and aural signal, as opposed to automatic presentation of the masks. The suitability of those features under operational conditions should be assessed as part of the certification process. Since the occupants will be briefed on the location of the masks and the signals for their use, this difference is considered acceptable. As noted by the petitioner, § 25.1447(c)(1) requires that there be ten percent more masks than occupants, and § 25.1447(c)(3)(ii) requires that there be two masks in each lavatory. The FAA concurs that the rationale behind these requirements does not apply in this case, and therefore an exemption is warranted.

In conclusion, the FAA has determined that the existing regulations for type certification do not address occupants that are neither crew nor passengers, and an exemption is warranted to permit carriage of these supernumerary individuals.

In consideration of the foregoing, I find that a grant of exemption is in the public interest and will not affect the level of safety provided by the regulations. Therefore, pursuant to the authority contained in 49 U.S.C. §§ 40113 and 44701, delegated to me by the Administrator, EADS Airbus is hereby granted an exemption from 14 CFR §§ 25.785(d), 25.813(b), 25.857(e), 25.1447(c)(1) and 25.1447(c)(3)(ii). The petition is granted to the extent required to permit type certification of the Airbus Model A300B4-600/-600R series airplanes, with provisions for the carriage of supernumeraries when the airplane is equipped with two floor level exits with escape slides, within the occupied area. The following limitations apply:

1. The airplane flight manual must contain a limitation that occupancy outside of the flight deck is restricted to a maximum of six persons;
2. Occupants are limited to the categories specified in §§ 121.583(a)(1) through (7);
3. Each occupant must be briefed by a flight crewmember on the use of the exits and emergency equipment prior to each flight; and

4. The operator must determine that each occupant is physically able to accomplish the necessary emergency procedures.

This exemption will remain in effect unless superseded or rescinded.

Issued in Renton, Washington, on August 30, 2001

/s/
Ali Bahrami
Acting Manager,
Transport Airplane Directorate
Aircraft Certification Service, ANM-100